Navy Cryptologists:
Leaders Across the Spectrum

Delivering effects through sea, air, land, space, and cyber domains
Vision and Guidance — Crafted by Navy Cryptologists
June 2016

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Culture: Navy Cryptology has been delivering critical SIGINT, Cyber and EW expertise for more than 80 years. Our actions define us: Tactical success is the standard — Strategic Outcomes are the metric.

Mission: Cryptologic Warfare encompasses Signals Intelligence, Cyberspace Operations, and Electronic Warfare Operations in order to deliver effects through sea, air, land, space, and cyber domains at all levels of war.

Imperatives

Deliver Value Across and Beyond the Navy: As we partner across and beyond the Information Warfare Community (IWC) to deliver effects, we will often be the first to detect and must be the first to both share and act. Uniquely positioned at the intersection of warfighting and intelligence authorities, we will champion mutually beneficial solutions to the most challenging opportunities. Our actions contribute to all aspects of Information Warfare — Battlespace Awareness, Assured C2, and Integrated Fires.

Operationalize Our Core Skills: The nation is making additional investments across our operational portfolio and we must provide a tangible return. Navy Cryptologists continue to develop, refine, and create the operational concepts and tactics enabling the Navy and Joint Force to fight and win in a denied or degraded electromagnetic spectrum environments.

Integrate Cryptologic Warfare: Interdependence and trust is built over time through collaboration and cooperation. Navy Cryptologists serve within all naval, joint, and interagency commands and staffs, as well as across the budgetary and programmatic world. We must be visible contributors throughout the entire planning cycle, leading it when necessary.

Way Ahead

Visibly Own Our Warfare Area — Lead as a Unified Team — Master Our Core Skills

Masters in *our* craft…
　　Experts in *our* warfare discipline…
　　　　Leaders in *our* profession of arms…
Leaders Across the Spectrum.

25 Jun 16

Navy Cryptology,

We recently changed the name of our community and officer designators (181X, 681X, 781X). What's in a name change? More than you might expect. This change more accurately reflects what we do, who we are and is a mark of respect for those who served before us, those serving now and those who will follow us. It is about creating a culture to evolve cryptologic excellence. This evolution will alter our future lines of operations in ways that we ensure we outpace the world around us.

The attached vision is our guide. Just like its predecessor, *Cryptologic Community Foundational Principles*, it was written by a group of passionate community leaders no different than you. As you read *Navy Cryptologists: Leaders Across the Spectrum*, you will note that it is simultaneously similar to, yet different from, its predecessor. Just like your accession into our community, that is not by chance. Similarity ensures we remember that who we are and why we exist are both constants — no different than Captain Joseph Rochefort or the *On the Roof Gang*. Difference reminds us that our approach to delivering value cannot stagnate — we must be increasingly relevant as a team of warfighters in a changing and uncertain future.

Navy Cryptology is positioned at the center of three global forces described by the Chief of Naval Operations in our *Design for Maintaining Maritime Superiority* — the forces at play in the maritime system, the force of the information system, and the force of technology entering the environment. With Cryptology having a central leadership role in a time of rapid change, we need to rapidly adapt. We live in a world that is evolving more quickly than ever before. We have a solid unwavering core — essential to leveraging the challenges and opportunities in these especially difficult, uncertain times to our benefit. The threats to our nation are evolving, the technology we must leverage, exploit, and secure is evolving, and, yes, the way we approach these challenges, turning them into opportunities, requires us to evolve our thinking. The diversity of thought and action in our warfare community puts us at the forefront of achievable innovation. This is not a choice. We must evolve and innovate or we will fail the mission. Mission failure is not an option.

As with most vision statements, this has little to do with the prose that you will read and the graphics that accompany. Truth is the document in and of itself is of little value. The value is in the culture it is intended to strengthen, the action it is intended to inspire, and the interdependencies across our team that it is intended to forge. This is a call to action. A call to think beyond our name change. A call to work as a team of teams more than ever before. Above all, I challenge each of you to visibly seize ownership of our mission and Lead Across the Spectrum, as essential members of the Information Warfare Community and our naval profession of arms.

Jan E. Tighe
VADM, USN
Navy Cryptologic Community Leader

Introduction

This Cryptologic Community vision is intended to remind us of the attributes that bind us and (re)commit to a future that will most certainly redefine us. This vision will guide our warfighting community to understand how we fit in and how we stand out. We are the Navy's professionals in signals intelligence (SIGINT), cyberspace operations (cyber), and electronic warfare (EW) — with warfighting at our core.

People are our capability, technology is our terrain, and innovation is our means of maneuver. Much has changed within our Navy since the writing of the original Cryptologic Community Foundational Principles and the world around us has evolved. Though progress continues to be plentiful, we will not spend time admiring our wake for that is not in our nature. The purpose of this communique is simple: to chart our course, call our team to action, and acknowledge that sometimes the most significant progress is realized when we return to our beginning. Our community is rooted in the proud warfighting tradition of Navy Cryptology.

The velocity and variance of change is astonishing. Technology continues to advance at a rate in keeping with Moore's Law. The network of threats we face continues to grow at a pace in keeping with Metcalfe's Law. Maneuvering ahead of this change is our charge. Our evolution as a team is much more than a name change. We must deliberately shape the culture of our Cryptologic Community.

Moore's Law: The number of transistors in a dense integrated circuit, and the overall processing power of computers, doubles every two years (n x 2).

Metcalfe's Law: The value of a telecommunications network is proportional to the square of the number of connected users of the system (n^2).

Cryptologic Postulate: The value of a technology as an IW target is proportional to Moore's Law x Metcalfe's Law.

Culture

The Navy's Cryptologic Community is rich in technical acumen and operational expertise. Our proud history is foundational to our community. Tactical success is the standard. Strategic outcomes are the metric. Our proud history is longstanding. Though the name of our community has changed over time, our actions continue to define us. Today's Navy Cryptologists are no different from those who served before us. Those who stood the watch before us did so with valor, dedication, and sacrifice.

They established SIGINT, Cyber, and EW as critical Navy warfighting capabilities through entrepreneurship, grit, and hard work. Their ability to see problems as opportunity gave birth to our community — Navy Cryptology. Those of us fortunate to serve as this generation's Navy Cryptologists are proud members of that very team; sharing the same level of commitment to reaching our ultimate potential. Our team includes:

- Cryptologic Warfare Officers (181X/681X/781X)
- Cyber Warfare Engineers (184X)
- Cyber Warrant Officers (784X)
- Cryptologic Technician Interpretive (CTI)
- Cryptologic Technician Maintenance (CTM)
- Cryptologic Technician Networks (CTN)
- Cryptologic Technician Collection (CTR)
- Cryptologic Technician Technical (CTT)
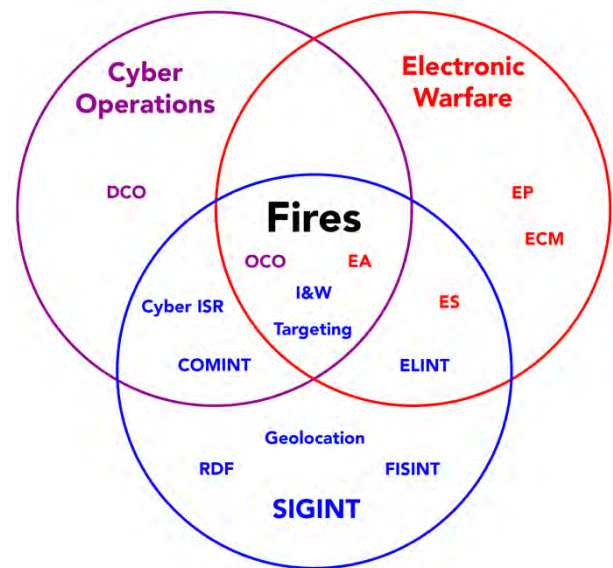- All Navy Civilians assigned to Navy commands directly supporting our core mission areas

We are individuals with unique and specialized skill sets. Together we are a powerful team that serves a common purpose united by the following truths:

- We are SIGINT, Cyber, and EW experts
- We are committed to mastering our craft
- We question the status-quo, enable constructive dissent, and deliver informed decisions
- We enable access, provide I&W, and deliver effects
- We are committed to leading and inspiring change across the Navy

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We are a team committed to leading across the spectrum.

Mission

Cryptologic Warfare encompasses Signals Intelligence, Cyberspace Operations, and Electronic Warfare Operations in order to deliver effects through sea, air, land, space, and cyber domains at all levels of war.

Just as we follow in the wake of those who have gone before us, it is incumbent upon us to cultivate a community that creates a wake worthy of following.

> We must bake innovation into our battle rhythm. We must build "sandboxes" to freely experiment, create, fail, and learn to test our ideas and challenge our assumptions.

For more than 80 years — from the Battle of Midway, to today's challenges in cyberspace — our SIGINT, Cyber, and EW expertise has played a key role in global power projection and sustained combat operations. Navy Cryptology played a critical role leading up to and during World War II. We fought during the Korean and Vietnam Wars, the Cold War, Operation DESERT SHIELD/DESERT STORM, and have been more critical than ever in the ongoing War on Terror.

We must build on this foundation of excellence, as we reach new heights and contribute to the security of the United States of America in ways not yet imagined.

Make no mistake, this is our watch to stand, until relieved, as Leaders Across the Spectrum.

Imperatives

Our imperatives build on one another and are complementary in nature. Progress in one affects the others. We must identify obstacles, develop solutions, and be visibly committed to breaking down barriers to progress as we achieve our goals.

> Our imperatives are:
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> - Deliver Value Across and Beyond the Navy
> - Operationalize Core Skills
> - Integrate Cryptologic Warfare

Deliver Value Across and Beyond the Navy

Cryptologists possess a deep understanding of cyberspace and the electromagnetic spectrum. We deliver outcomes in partnership with fellow members of the Information Warfare Community (IWC). Where the other domains (e.g., Sea, Air, Land, Space) are natural, the cyber domain — to include a portion of the electromagnetic spectrum (EMS) — was invented and engineered for human use only within the past 200 years. We share this engineered domain with adversaries and partners alike. Because it is highly susceptible to human manipulation, our mastery of it is essential to Warfighting.

Navy Cryptologists are key partners within the Information Warfare Community. We will often be the first to detect our adversaries' actions or intent and must be the first to both share and act, as we partner across and beyond the IWC to deliver effects. We will continue to ensure our operational contributions remain strong through efficiency of action and strong partnership throughout.

The Cryptologic Community remains uniquely positioned within our Navy. We serve at the intersection of warfighting and intelligence authorities, providing skill-sets vital to executing all aspects of Information Warfare — We serve as a linchpin of the IWC; as our core skills have common bonds with each of the other IWC Communities. It is paramount that we leverage our specialized skills, unique relationships, and authorities to provide value across the IWC, Navy, Joint and National Operational and Intelligence arenas, as well as academia, the private sector and our partner nations. We value our dual authorities in Intel and Warfighting as a unique strength. We will champion mutually beneficial solutions to the most challenging opportunities and celebrate our role as community ambassadors by preserving strong partnerships with other SIGINT, Cyber, and EW professionals proudly serving our country and allied partners.

Each of our three core missions/skills enables us to contribute to and execute Naval Warfare, and specifically Electromagnetic Warfare (EMW) and Information Operations (IO). With respect to both, we bring our unique perspective, but it is a blend of diverse expertise from both larger IW and other warfighting communities that ensures operational success in the IO arena.

> We will have the courage to remove barriers that inhibit our ability to conduct the necessary operations at the time and place of our choosing.

Operationalize Core Skills

Alongside our IWC partners, we have been deliberately operationalizing our core skills for years. In 2013, Operation ROLLING TIDE thrust defensive cyberspace operations to the forefront. The Secretary of Defense and Chief of Naval Operations have made the Cyber Mission Force a priority and an increased emphasis on Information Warfare abundantly clear. The application of our tradecraft in Special Operations supporting the War on Terrorism has never been more impactful or appreciated. Additional investments are being made across our operational portfolio within a declining budget environment; however, this is about value, not scale.

> The emergence of Information as a Warfare area is by design.

We must continue to turn opportunity into operational advantage and provide a visible return on this tailored investment. The need to operate in a denied or degraded EMS environment, the rapidly increasing threat of long range Anti-Ship Missiles, the advent of Electromagnetic Maneuver Warfare, and the emergence of Cyberspace as a warfighting domain demands the integration and optimization of passive, organic and non-organic sensors in order to provide battlespace awareness. We will optimize national-tactical integration and better integrate off-board sensors as we develop and leverage Distributed SIGINT Operations. We will have the courage to work across organizational constructs and remove barriers that inhibit our ability to conduct operations at the time and place of our choosing. Without sacrificing readiness by managing risk, we will continue to support the acquisitions process by helping to boldly shape and inform requirements. Finally, we will continue to be leaders in cyberspace, providing network defense across the Fleet while remaining postured to deliver effects against adversaries when directed.

Integrate Cryptologic Warfare

We believe interdependent partnerships make us stronger. Interdependence and trust is built over time through coordination, collaboration, cooperation, and integration. Our billet structure is a deliberate footprint within all naval, joint, and interagency commands and staffs, as well as across the budgetary and programmatic world. This footprint merely provides the access for us to do our job. We must leverage our abilities and lead the integration of cryptologic warfare across tomorrow's Navy, embed it

within the Joint Force of the Future, and develop our interdependent relationships with our foreign partners. In order for us to deliver on our responsibilities, we must be visible and active contributors throughout the entire planning cycle, and often times lead it.

> Interdependent partnerships make us stronger. Interdependence and trust is built over time through coordination, collaboration, cooperation, and integration.

Similarly, execution of our core missions — SIGINT, Cyber, and EW — must be precisely synchronized at all levels and phases of warfare. Whether assigned to the supporting or supported Commander, our collaboration, integration, and interdependence with the greater team will determine operational success.

Charting Our Course

As a community, we play a vital role in enabling our Navy to project global power and engage in sustained combat operations at sea where required, when we must. We enable our nation to maintain the peace. To lead across the spectrum, we must:

- Visibly Own Our Warfare Area
- Lead as a Unified Team
- Master Our Core Skills

Visibly Own Our Warfare Area

Warfighters own their warfare area, and we must own Cryptologic Warfare.

Among other things, the Surface Warfare Community are the experts on how best to man, train, equip, or organize the surface force. Similarly, the Air Warfare Community owns power projection from the air. Our leadership of Cryptologic and Information Warfare is no different.

We are warfighters first. We do not expect, nor desire public recognition. Often, the nature of our business prevents that recognition. We are quiet professionals, but our prowess is visible on the battlefield and at sea.

We are experts in our field. We provide capability-oriented solutions and new operational concepts in advance of the adversary and technology. We must formalize organizational structures that ensure we deliver the effects the rest of the Navy needs from us. If we believe ourselves to be the "Masters of our Warfighting Domain", we must visibly own it and demonstrate our relevance — not through words, but through action and deed!

Lead as a Unified Team

To keep pace with a rapidly changing threat environment, we will strengthen both our unity of effort and unity of purpose to ensure maximum effect. Those of us serving within the C10F Task Force structure must leverage the power of this extremely flexible operational construct to gain shared situational awareness, realize organizational efficiencies, and optimize operational effectiveness. While the Cryptologic Community has a center of gravity within TENTH Fleet, the majority of our community is contributing outside the umbrella of the Task Force structure. As a unified team, we must execute our missions globally as extensions of one another in order to deliver unified and superior outcomes.

Our teaming must imbue trust and purpose into our organization, creating opportunities for innovation and leadership at all levels. Our most relevant solutions are more likely to emerge from the deckplates than the bridge. For that reason, we must harness the innovative spirit of our juniors…early! Our most junior cryptologists' ideas will be heard, considered, and championed…making the shaping of our future an all hands responsibility. Innovation is historically hazardous work. Senior enlisted and officer leaders have a responsibility to provide cover and mentorship for those personnel who choose to innovate.

> The shaping of our future is an all hands responsibility.

At all levels, Cryptologists are expected to lean forward, communicate intent, demonstrate progress,

> Creativity is authorized, fear of failure is not.

learn from our failures, and share successes, to evolve as leaders and shape the future of our community.

Master Our Core Skills

Technology is changing at an accelerating rate, far outpacing the Navy's traditional workforce development model. We must recruit the best talent and challenge them during accession training. But our training cannot stop there; we must partner with and across IW oriented staffs (e.g., OPNAV N2/N6 and Naval Information Forces) to help shape our training and experience continuum if we are to achieve mastery across our core skills. Curriculum must maintain relevance and unit level experts must ensure continuous learning is the standard. When it does come to training, we must recognize that how we train is at least as important as what we train, and we must train like we fight. Continuous learning is the expectation.

As Cryptologic professionals we must strive to be the domain's greatest asset. Mastery of our skill-sets gives our Navy the warfighting advantage. Our ability to deliver operational outcomes will continue to depend on our senior enlisted leaders becoming master-level technicians and Rating Leaders. Deckplate leadership from our Chief Petty Officers drives operations, influences workforce readiness, and empowers Sailors to achieve mastery in their Ratings. Well-rounded leaders in the Chief's Mess are important, but operational and technical mastery across the backbone of the force is vital. And this must be true of our CPOs first and foremost. At the same time, we must recognize that our most powerful retention tools remain mission that matters, the continual pursuit of mastery, and inspirational leaders who make the connection between tactical tasks and strategic outcomes abundantly clear to all.

The pursuit of mastery is a never ending quest — a quest that centers around not the accumulation of knowledge, but the application of wisdom.

Our Mandate

Cryptologists are Leaders Across the Spectrum: cyberspace, the electromagnetic spectrum, the warfighting spectrum, and the organizational spectrum. We lead well beyond the IWC, leveraging and exploiting technology in ways that only we are capable. Our culture binds us as a team integrated through understanding and synchronized in action. Each of us has a responsibility to harness the power of the community to accomplish the mission of the team to which we are directly assigned. We take great pride in being a team of teams and are committed to enabling operational outcomes no matter how far forward we must reach. While we deliver effects across and operate in five domains, it is important to recognize that though not unique to cryptology, we must be experts in the cognitive domain. Our results, though not always measurable, are valued and visible.

Our commitment to collectively owning our warfare area will be visible to all.

Our Navy and nation is counting on us to generate outcomes that only we can. We will achieve this as a deliberate partnership. A partnership that extends across our military profession of arms. Our ability to complement the specialized expertise resident in other warfighting domains requires that we be specialized experts ourselves. We are masters in our craft, experts in our warfare discipline, and leaders in our profession of arms. As a community, we will take periodic fixes that transcend our respective commands. These fixes enable accountability. Progress will be visible, as will our respective contributions. This is a call to action. A call for you to do your part. A call for us to lead together as only the Cryptologic Community can.

Though this document most certainly will guide our collective action, we must strive to outgrow it. For if it is still relevant five years from now, odds are that we are not.

It is time we write our next chapter through action!

Masters in *our* craft…

Experts in *our* warfare discipline…

Leaders in *our* profession of arms…

Leaders Across the Spectrum.